



NORTH CAROLINA Department of Transportation

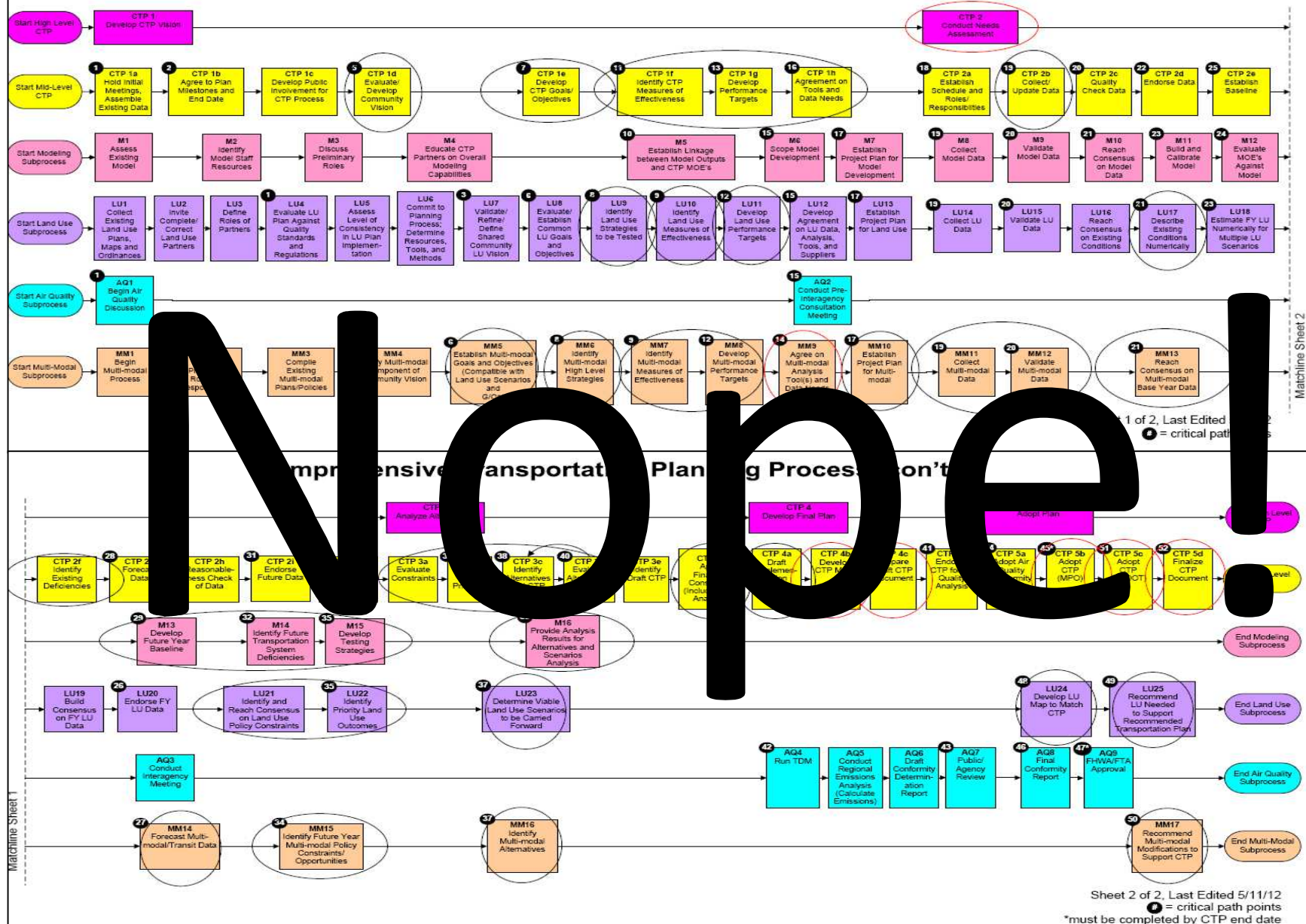


Transportation Planning Overview

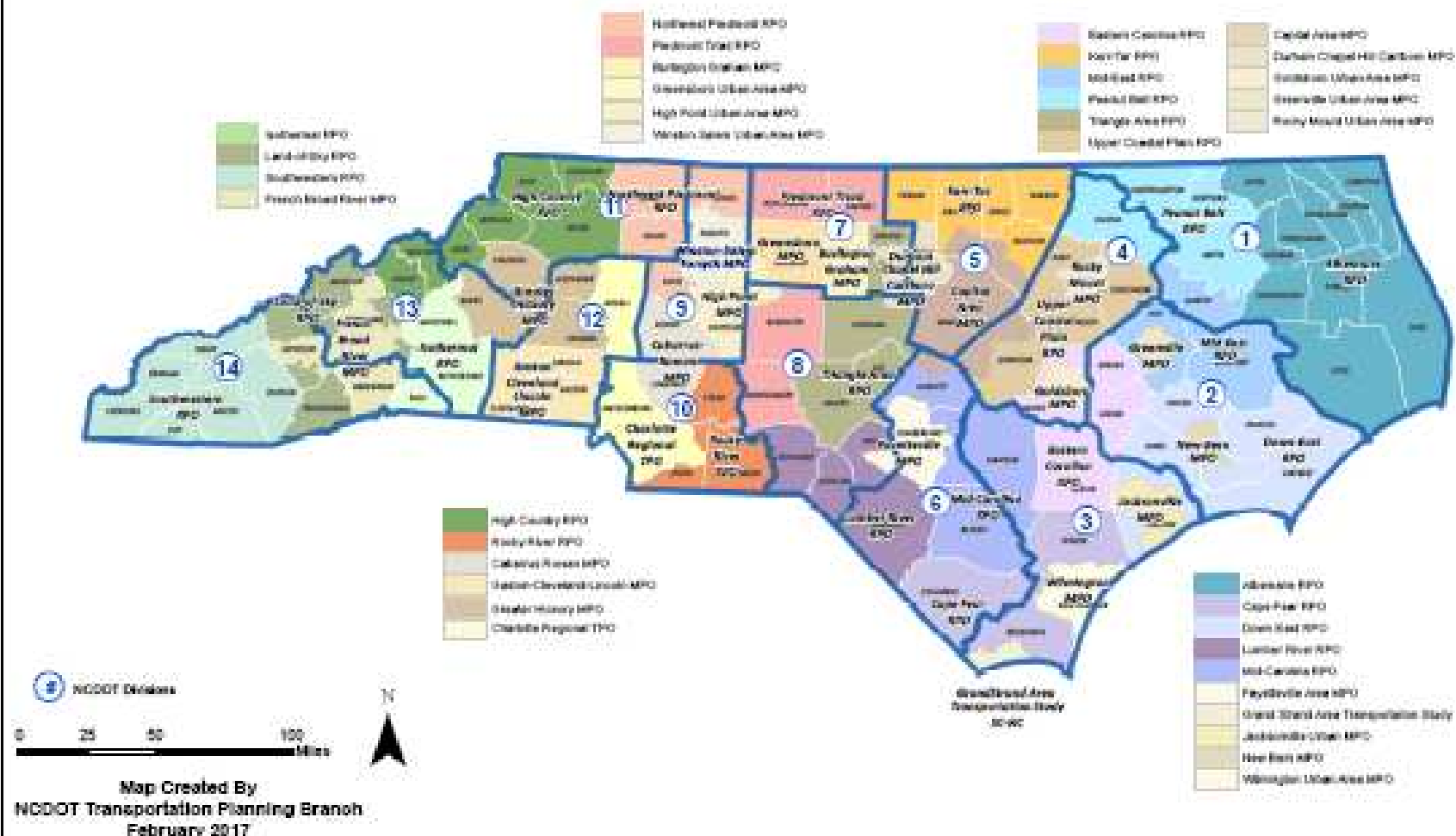
James Upchurch

September 26, 2017

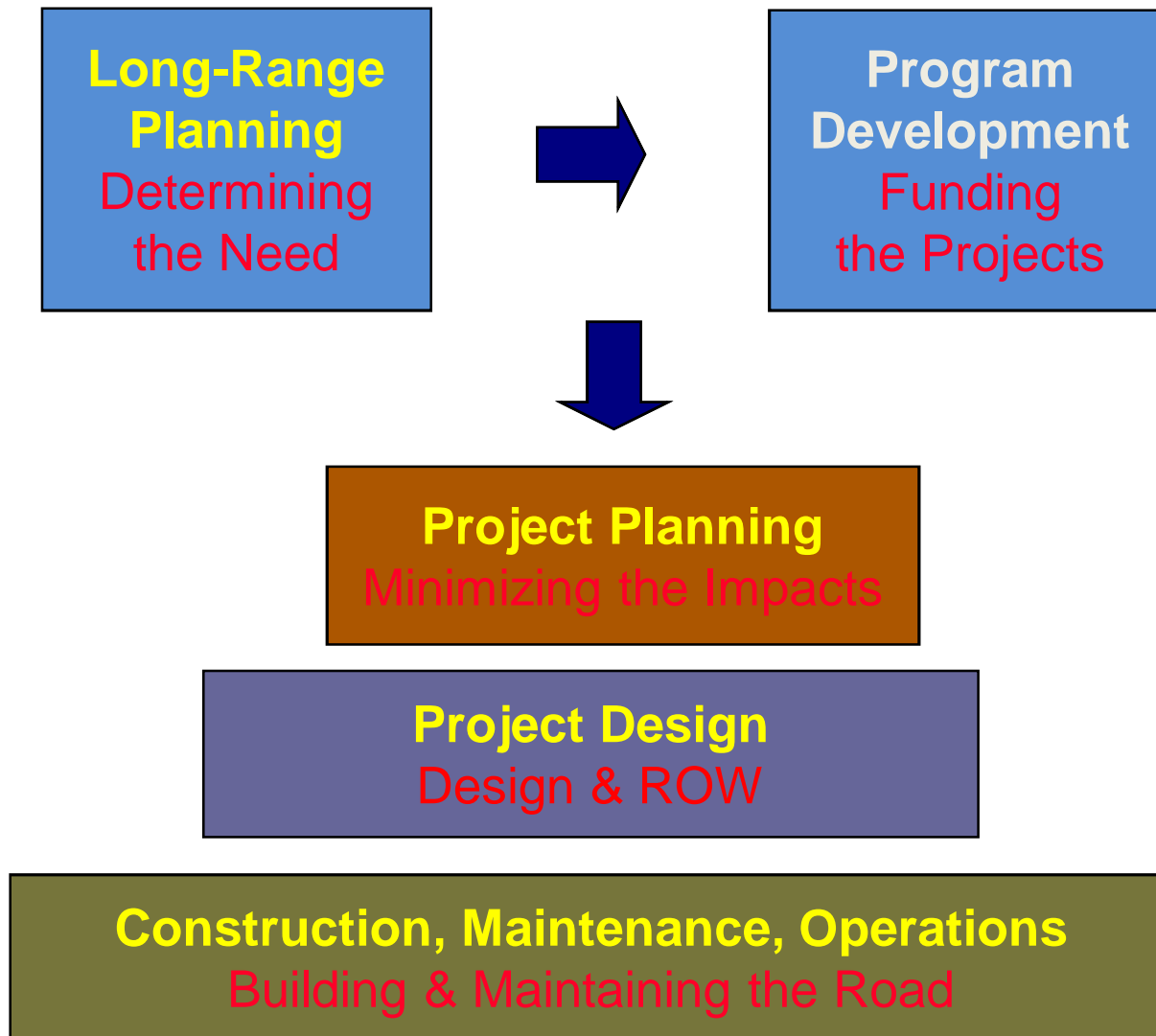
Comprehensive Transportation Planning Process



Metropolitan Planning Organizations, Rural Planning Organizations,
NCDOT Divisions and TPB Planning Groups



How A Transportation Project Gets Built



It is about the **SYSTEM**; not just about a single project.

All Modes: Highway, Public Transportation & Transit and Rail, Bicycle, Pedestrian, Aviation, and Ferry

Connectivity of Activity Centers, Emergency Centers and Routes, Institutions, and Economic Generators

Assessment of Existing Conditions & Providing Solutions to Projected Future Travel Demand

Long-Range Transportation Planning Includes:

- Monitoring Existing Conditions;
- Forecasting Future Population and Growth;
- Assessing Land Uses and Transportation Connectivity;
- Identifying Current and Future Transportation Needs;
- Developing Long-range and Short-range Programs for Capital Improvements;
- Estimating Impacts of Recommended Future Improvements; and
- Developing an achievable plan and helps to secure project funding

Federal Legislation:



1916, Federal-Aid Road Act: Federal-Aid Highway Program began

1921-1925: Congress adopted federal-aid highway system and begins establishing routes.

1944, Federal-Aid Highway Act: “National Highway System of Interstate and Defense Highways” intended to link economic centers and states together.

1956, Federal-Aid Highway Act: Congress established Highway Trust Fund, (HTF). The National Interstate system was born!

1962, Federal-Aid Act: Required the formation of an MPO for any urbanized area; Established requirement to have a long-range plan in Metropolitan Areas; and 3-C's are established: Continuing, Cooperative, and Comprehensive.

1964, 1970, Mass Transit Acts: First dedicated funding for mass transit.

Federal Legislation in Long-Range Planning: Why Do We Do What We Do?

1982, STA
(35 years ago)

1982, Surface Transportation Act: Sought to unify Highway, Transit, Transportation Safety Programs under one bill. Congress creates a mass Transit Account; adds bicycle/pedestrian projects, recreational trails, and funding for freight and passenger rail.

1991, ISTEA
(26 years ago)

1991, ISTEA: Intermodal Surface Transportation Efficiency Act
Congress commits to a national intermodal transportation system, increased role of MPOs in funding decisions; and required Comprehensive Regional and Statewide long-term transportation plans.

1995 NHSDA
(22 years ago)

1995, National Highway System Designation Act
Legislation dedicated 160,000 miles of roadway to the National Highway System (NHS). NHS was developed by the US DOT in cooperation with states, local officials, and MPOs.

1998 TEA-21
(19 years ago)

1998, TEA-21: Transportation Equity Act for the 21st Century
Authorization that introduced Seven planning factors to be included in regional transportation plans. These are still in use today:

2005, SAFETEA-LU
(12 years ago)

2005, SAFETEA-LU Safe Accountable, Flexible, Efficient Transportation Equity Act – A Legacy for Users

1998, TEA-21: Transportation Equity Act for the 21st Century

1. *Support **economic vitality** of the **metropolitan planning areas**;*
2. *Increase **safety and security** for **motorized and non-motorized users**;*
3. *Increase the **accessibility and mobility** options for people and freight;*
4. *Protect and enhance the **environment, energy conservation and quality of life**;*
5. *Enhance the integration of **connectivity***
6. *Promote **efficient** system*
7. *Preservation of **existing transportation system**.*

Key Point for Planning:

*TEA-21 and SAFETEA-LU provided the documentation that required states to develop **Long-Range Transportation Planning that included both municipal and rural entities actively participating in cooperative efforts with the Department of Transportation.***

2005, SAFETEA –LU

Safe Accountable, Flexible, Efficient Transportation Equity Act –
A Legacy for Users

- *Changed the **structure and requirements** of longstanding programs;*
- *Introduced new initiatives;*
- *Added **oversight responsibilities**;*
- *Enhanced **safety, reduced traffic congestion**;*
- *Improved **freight movement**;*
- *Increased **intermodal connectivity**;*
- *Protected the **environment**.*

MAP 21

2012: Moving Ahead for Progress In the 21st Century

1. Creates a **performance-based** **surface transportation program**.
2. **Builds on, highway, transit, bike, and pedestrian programs and policies established in 1991, ISTEA.**
3. **Consolidates the program structure reducing the number of programs.**
4. **Expands NHS (National Highway System) to include principal arterials.**
5. **Changes funding distribution scheme – individual programs versus lump sum for core Highway Trust Fund programs.**
6. **Builds on an aggressive Highway Safety Improvement Program.**
7. **Accelerates project delivery and promotes innovative funding.**

FAST Act

Fixing America's Surface Transportation

In 2015, Congress Continued emphasis on performance-based planning (started in MAP-21)

*“a **strategic approach** that uses **system information** to make investment and policy **decisions** to achieve national performance **goals**.”*



Fast Act Freight Provisions

- Accelerating **Project delivery**
- Focusing on **innovation and technology** over the next 5 years
- Establishes the National Highway Freight Program (NHFP) to enhance **efficient movement of goods**
- Requires establishment of the National Highway Freight Network (NHFN) NHFN
 - Primary Highway **Freight System** (PHFS)
 - Critical **Rural and Urban Freight Corridors**
 - ID Portions of the Interstate System that are not part of the PHFS
- Setup **National funding** for the NHFP

FAST Act – cont.

- Investing in improvements that **strengthen economic competitiveness**, reduce congestion, reduce the cost of freight transportation, improve reliability, and increase productivity rural and urban areas
- Improving the **state of good repair**, efficiency and productivity of the NHFN
- Improving Statewide corridor planning to address highway **freight connectivity**
- Reducing the **environmental impacts** of freight movement on the NHFN

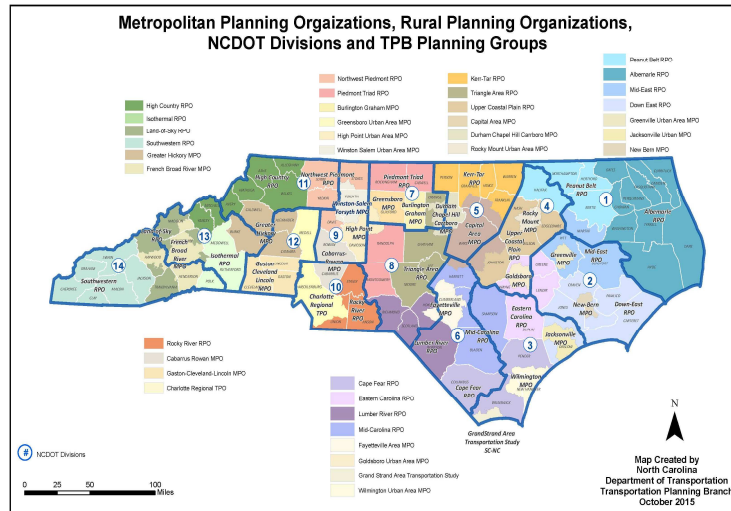
MTPs

Metropolitan Transportation Plans

&

CTPs

Comprehensive Transportation Plans



MTP's Study

Programs:
NHPP
STP
CMAQ
HSIP
PL

- Highway Element
- Metropolitan Transit Element
- Rail Element
- Bicycle and Pedestrian Element
- Aviation Element
- Safety and Security Element
- Congestion Management Element

The MTP:

Establishes how the region plans to invest in the transportation system using both short and long-range strategies.

Other Federal Legislation and Core Objectives (MTP, TIP, NEPA, Title VI, E.O. 12898, E.O. 13166 Economic Vitality)

- Fiscal Constraint Element
- Freight Element
- Population and Economic Study
- Environmental Mitigation Element
- Public Involvement Element
- Environmental Justice Element
- Title VI



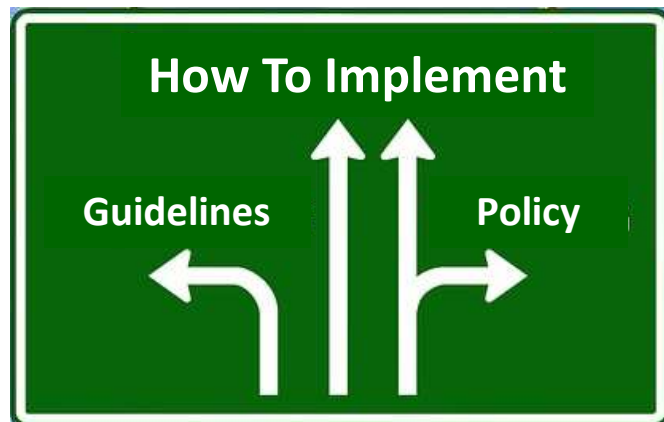
MPO FY 20XX-20XX

UPWP Task List (Summarized)

- Develop **Performance Measures** for MAP 21
- 2040 MTP Integration into CTP
- Studies and Plan Development
- Data Collection for Transit System
- Support Ozone Advance Program
- Update Vehicle Occupancy Rate Report
- Expand GIS Resources and Website Maintenance and Development
- Develop 2016 UPWP
- Support Recipients to Implement Transportation Alternative Grant (TAP) Projects
- Coordinate with NCDOT in Development of FY 2015-2021 Metropolitan Transportation Improvement Program (TIP).



5 Core Responsibilities Through MPOs



1. Fair and impartial setting: ✓

Membership decisions , select the host agency and meeting locations.

2. Identify and evaluate alternative transportation improvement options: ✓

Studies, model analysis, project review and feedback to transportation agencies.

3. Prepare/Maintain MTP: ✓

Update and development of long-range transportation plan for the planning area.

4. Develop TIP: ✓

Fiscally constrained short-range plan (four years). Involves project prioritization and selection of projects slated for federal funding.

5. Involve the Public: ✓

CAC, public drop-in sessions, workshops, special events, surveys, website, and outreach.

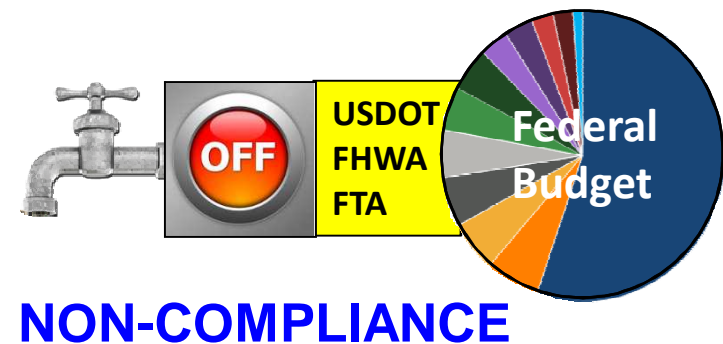
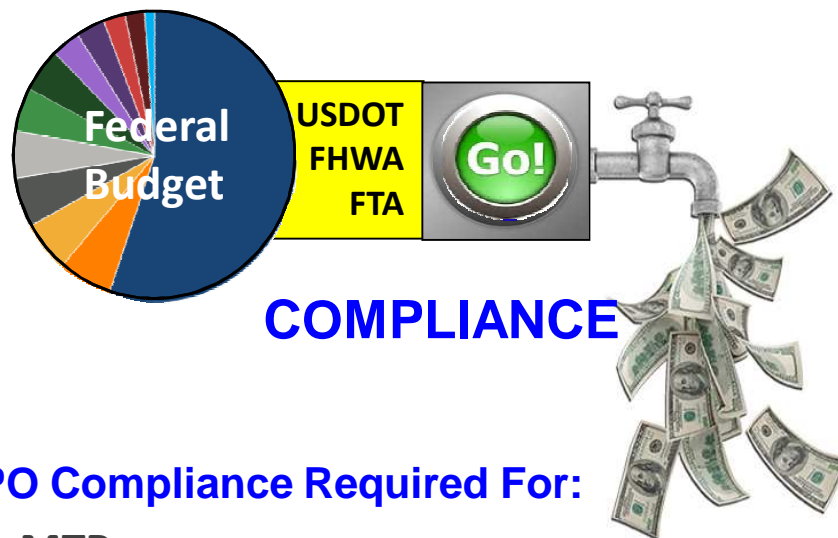
The Bottom Line for MPO Transportation

Stakeholders regarding Deadlines, Requirements,
Public Processes, Policy and Agency Guidelines?

Where Transportation Funding is concerned

Compliance = Funded

Non-Compliance = Unfunded



MPO Compliance Required For:

- MTP
- TIP: 4 Year Fiscally Constrained Plan
- Meeting Air Quality Standards
- Certification Reviews

North Carolina G.S. 136-66.2. Development of a coordinated transportation system and provisions for streets and highways in and around municipalities.

A Comprehensive Transportation Plan (CTP) Is...

Multimodal Plan That Includes:

- **Highways**
- **Public Transportation and Rail**
- **Bicycle Facilities**
- **Pedestrian Facilities**

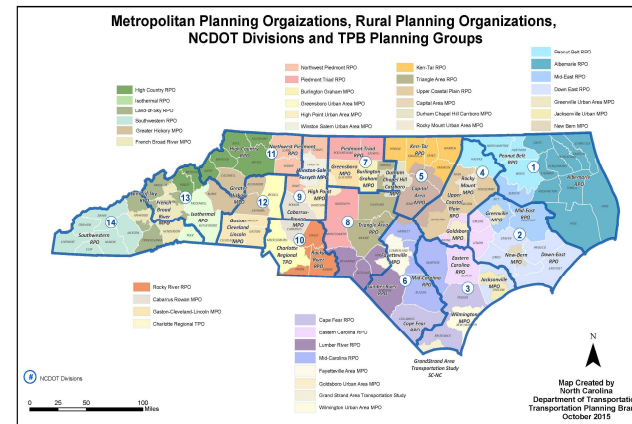
Recommendations Show Facilities As:

- **Existing**
- **Needs Improvement**
- **Recommended**

Roadways classified by Highway Categories:

- **Freeways**
- **Expressways**
- **Boulevards**
- **Other Major and Minor Thoroughfares**

Is Consistent with an MPO's MTP



Elements of the Plan:

Technical Report

- **Facilities Inventory**
- **Problem Statements**
- **Project Recommendations**

MTPs and CTPs

Metropolitan Plans

- **Highway Element**
- **Metropolitan Transit Element**
- **Rail Element**
- **Bicycle and Pedestrian Element**
- **Aviation Element**
- **Safety and Security Element**
- **Congestion Management Element**
- **Fiscal Constraint Element**
- **Freight Element**
- **Population and Economic Study**
- **Environmental Mitigation Element**
- **Public Involvement Element**
- **Environmental Justice Element**

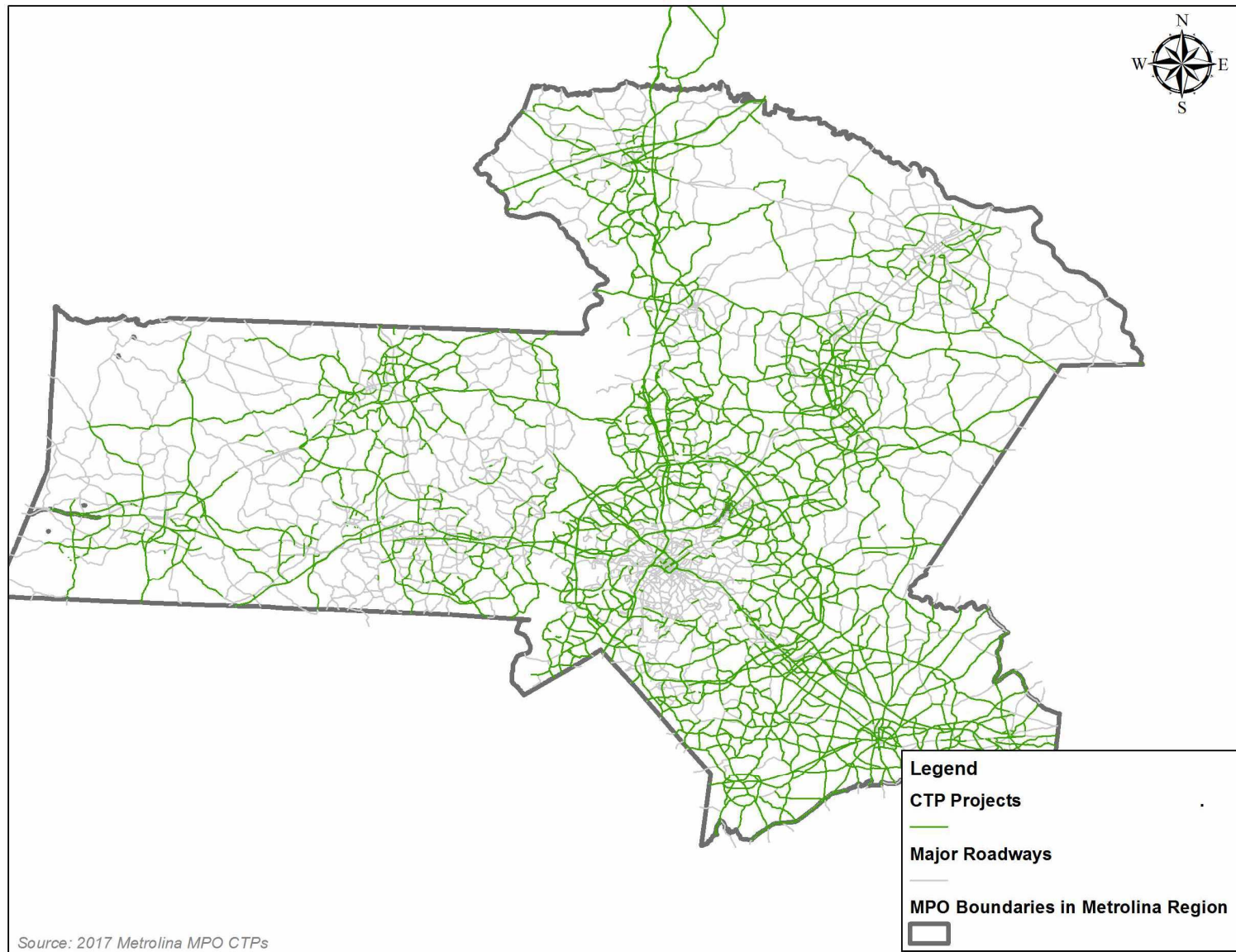
Comprehensive Plans

- **Highway mode**
Highway Improvements and Facility Types
- **Public Transportation and Rail modes**
Transit, Aviation, Ferry, and Rail Corridors
- **Bicycle and Pedestrian modes**
Sidewalks, Bicycle, and Multiuse Paths

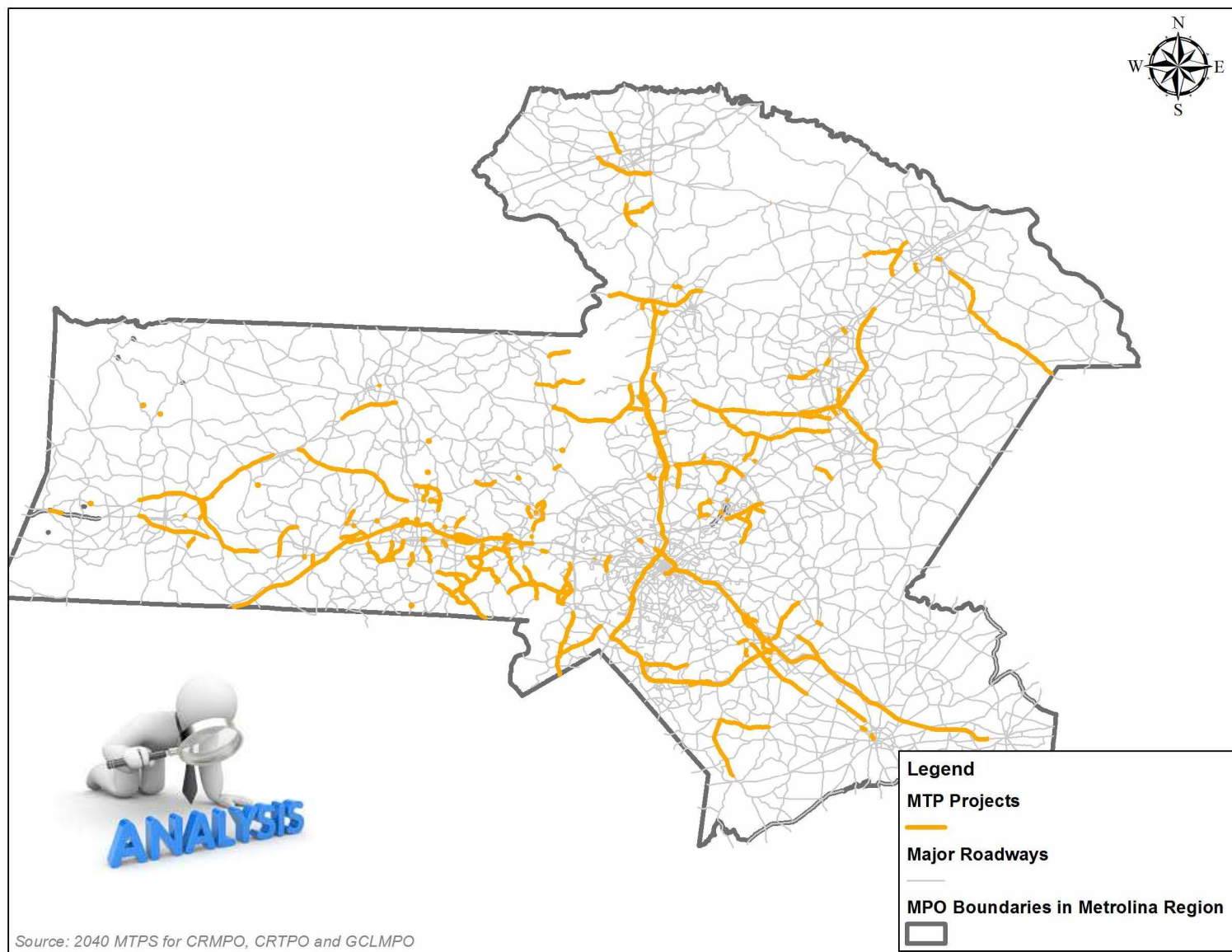
CTP Study Analysis Process Includes:

- **Deficiency and Congestion Analysis**
- **Bridge and Crash Locations**
- **Population growth and Land use Plans**
- **Environmental Screening**
- **All Existing multimodal modal plans**
- **Public Involvement**
- **Environmental Justice and Title VI Assessments**

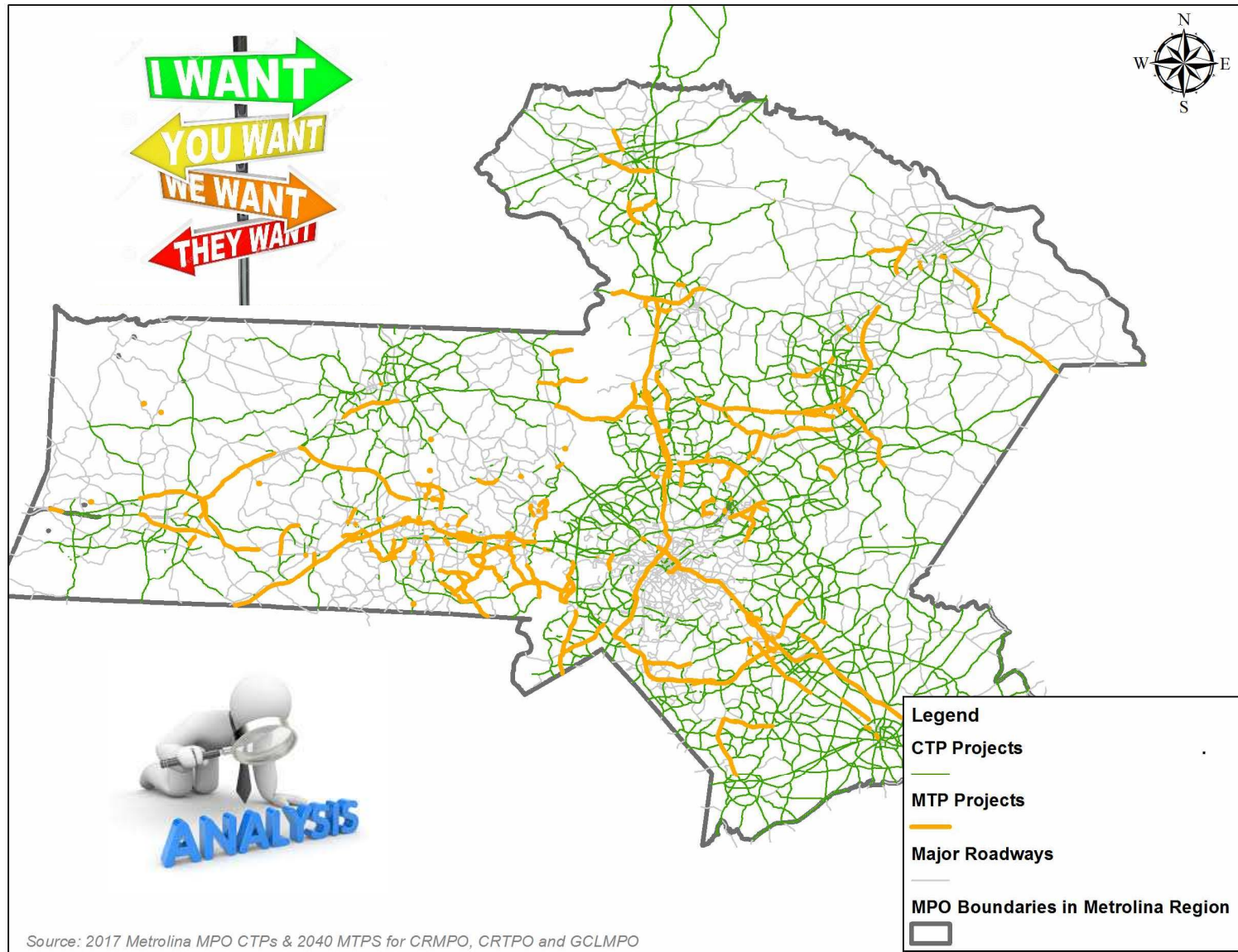
CTP Recommendations in Metrolina



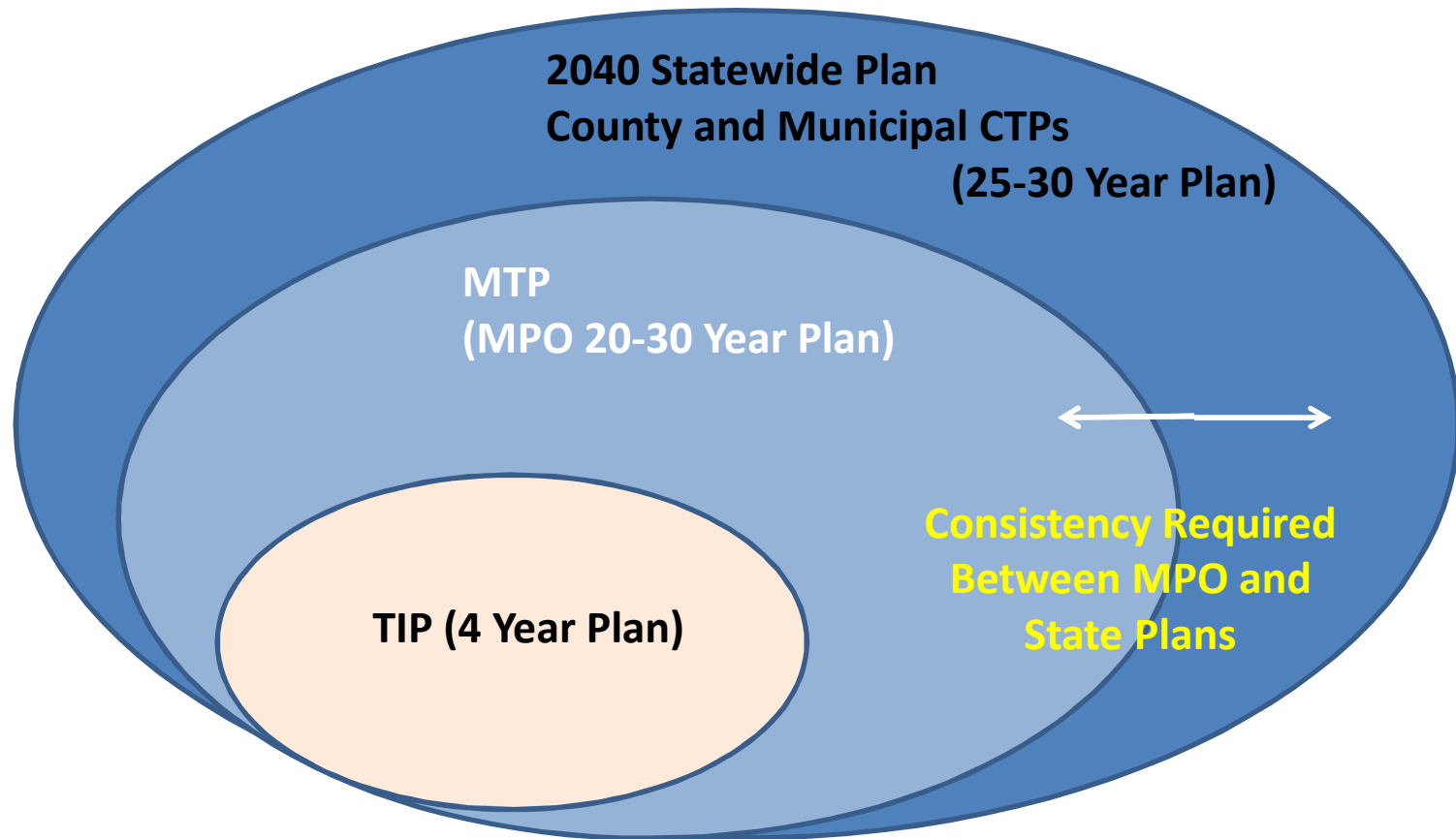
2040 MTP Projects in Metrolina



CTP Recommendations & MTP Projects in Metrolina



Transportation Planning Documents – Long-Range Plan

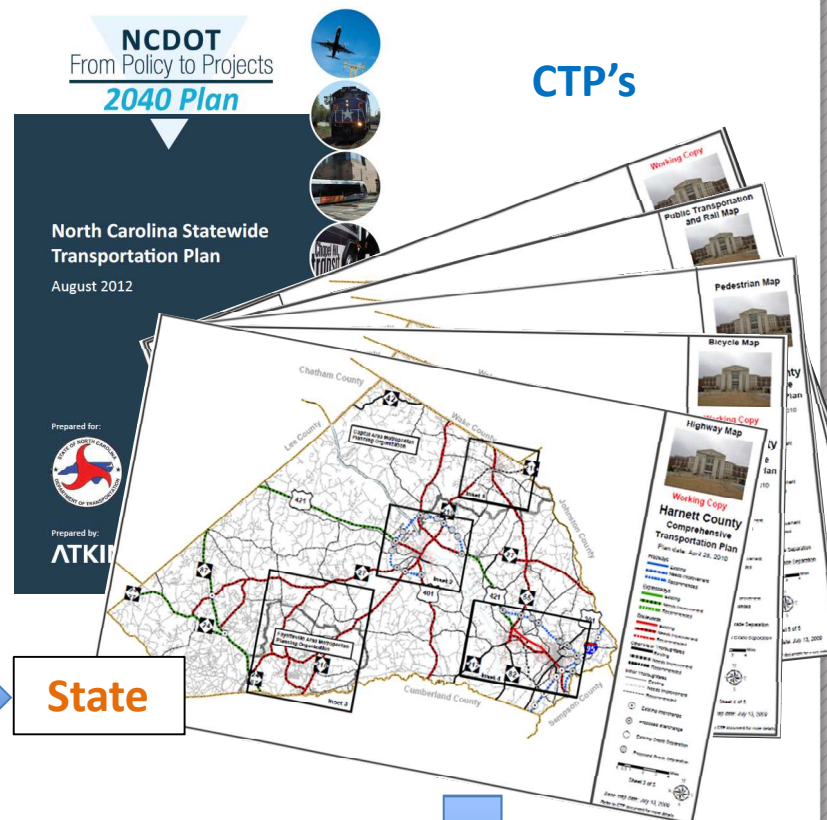


Document	Who Develops?	Who Approves?	Planning Horizon (Years)	Contents	Updated (Years)
MTP	MPO	MPO	Min 20 (25 to 30)	Future Goals, Strategies, <i>Fiscally Constrained</i> Projects	5 Years / 4 Years for Non-Attainment Areas and Maintenance Areas
MTIP	MPO	MPO/Governor	4	Transportation Investments <i>Fiscally Constrained (Obligated)</i>	2
CTP	NCDOT and planning partners	NCDOT, RPO, MPO, Participating Counties and Municipalities	25-30	Future System Needs and Project <i>Proposals Not Fiscally Constrained</i>	Approx. 5
STIP	NCDOT	USDOT (FHWA/FTA)	7	Transportation Investments	2

Long-Range 20-30 Years

NCDOT
From Policy to Projects
2040 Plan

CTP's



State

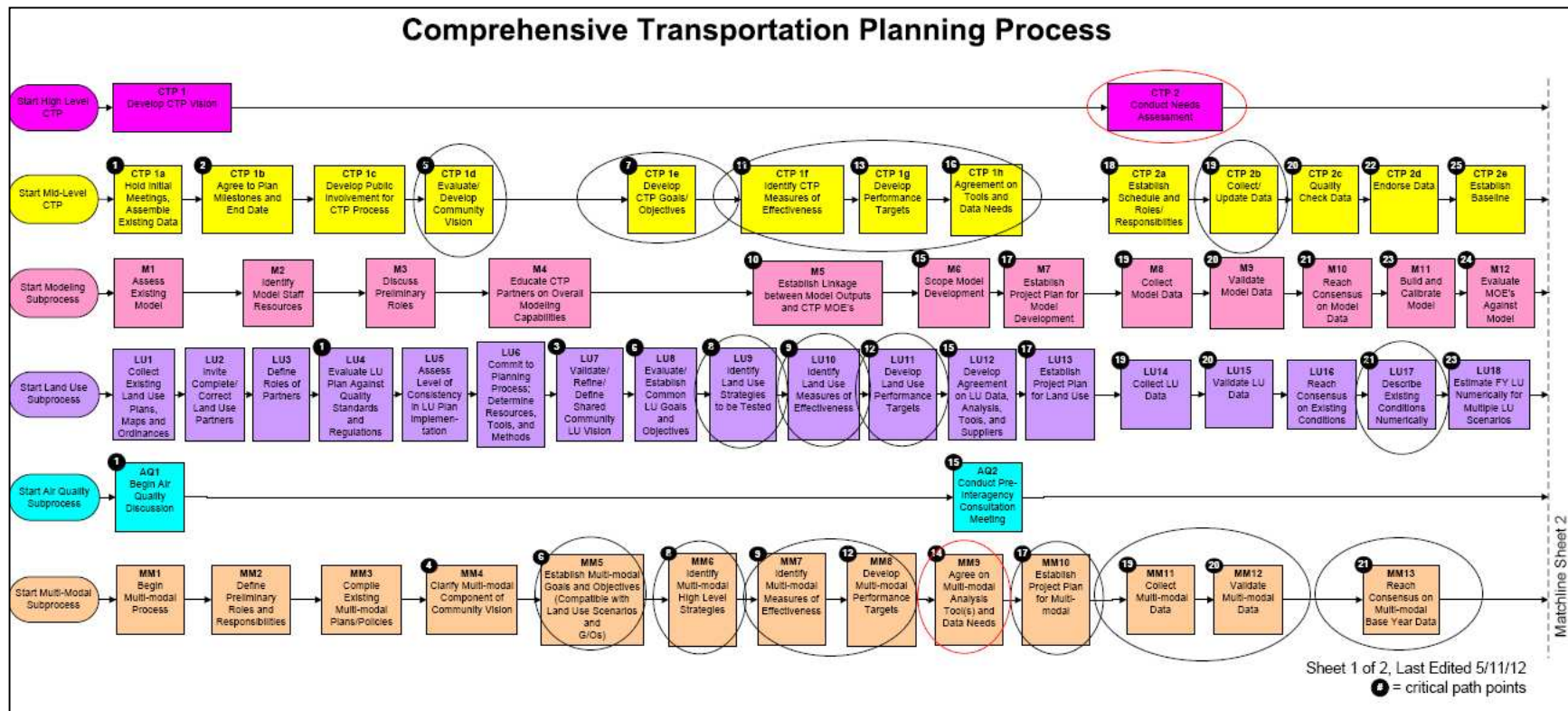
STIP

MTIP

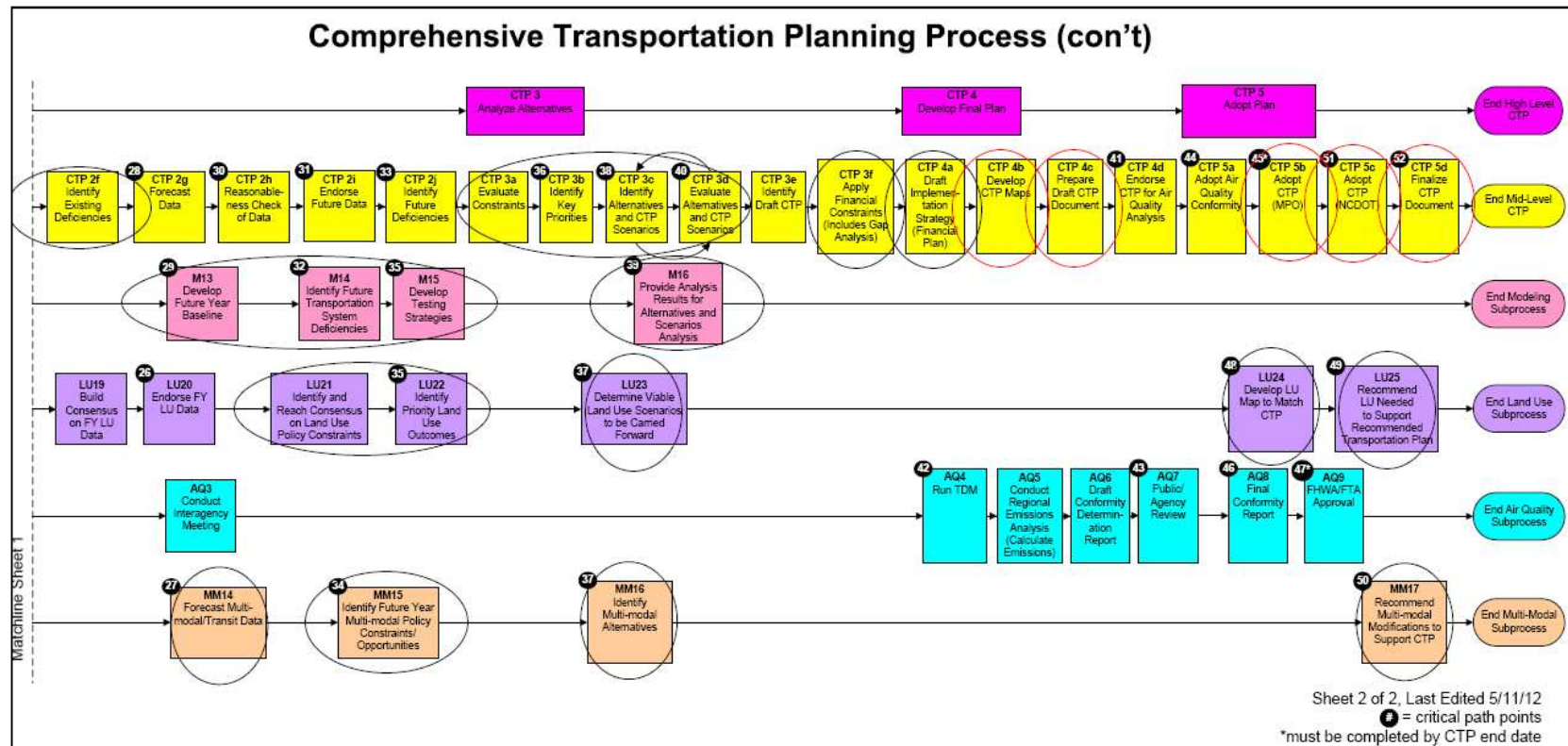
2012-2018					
Road Location	MTIP	FY 2012 Cost	FY 2012-2018 Programmed	Prior Year	Balance
-4745 19th St SE to Exit 81			63,706	1,905	96,661
R-2303 NC 24, West of SR 1006 to SR 19			1,510	3,530	
K-0002 Fayetteville Outer Loop, East of NC 24-87 (Bragg Blvd to I-95)	Freeway on new location with structure over the Cape Fear River	305,395	86,866	216,629	
U-4414 SR 1007 (All American Frewy), SR 1151 (Owen Dr.) to North of SR 1437 (Santa Fe Dr)	Add an additional lane each direction	47,903	1,780	1,272	44,851
U-2810 SR 1003 (Camden Rd.), NC 59 (Hope Mills Rd.) to SR 1007 (Owen Dr.)	Widen roadway to multi-lanes	41,735	23,315	18,420	
U-4706 SR 1131 (Cameron Rd.), SR 1132 (Legion Rd.) to NC 59 (Main St.) in Hope Mills	Widen to multi-lanes	2,300	2,000	300	
U-3423 NC 24-87 (Bragg Blvd), US 401 Bypass to North of SR 1437 (Santa Fe Dr/Dow Rd.)	Widen to six lanes	19,483	4,509	14,974	
U-4422 SR 1096 (Greensboro Rd), US 401 Bus (Rearford Rd.) to SR 1400 (Cliffdale Rd)	Widen to five lanes, part on new location	12,629	7,200	5,429	
U-3849 SR 1363 (Elk Mill Rd), SR 1132 (Legion Rd.) to US 301/95 Bus	Widen to multi-lanes	18,647	4,058	14,589	
I-95 Fayetteville Outer Loop, I-95 south of Fayetteville to west of NC 24/NC 87 (Bragg Blvd.)	Freeway on new location	528,890	145,667	73,223	310,000

[illegible]

Current CTP Process



Current CTP Process



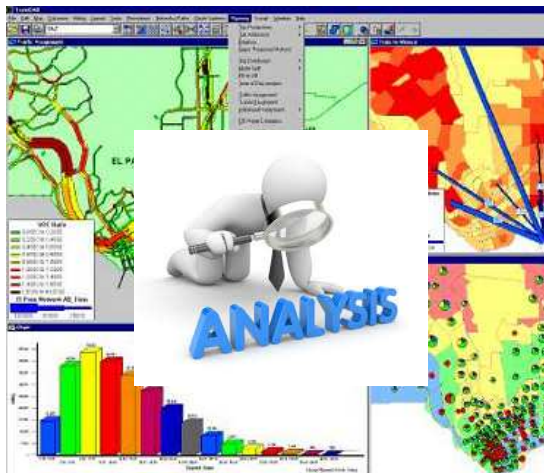
NC Communities and Transportation Planning



Develop Vision



Needs Assessment



Analyze Alternatives



Develop Final Plan



Adopt Plan

CTP Process



**Develop
CTP
Vision**

Conduct
Needs
Assessment

Analyze
Alternatives

Develop
Final
Plan

Adopt
Final
Plan

Purpose

To establish **partnerships** needed to produce community **consensus on future transportation** improvements compatible with the community desires visions, goals and objectives, and their local policies



Develop
CTP
Vision

**Conduct
Needs
Assessment**

Analyze
Alternatives

Develop
Final
Plan

Adopt
Final
Plan

Purpose

To establish **current
and future deficiencies**
for the overall (multi-
modal) transportation
system and survey
public input



Data Collection and Projection

Base Year Data

- *Population*
- *Land Use Patterns*
- *Traffic Data (AADT)*
- *Vehicle Crash History*
- *Roadway and Bridge Conditions*
- *Housing and Employment Data*
- *Environmental Features*
- *Input From Local Policy Boards , Steering Committees and Public*
- *Current Funded TIP Projects*

Future Year Data

- *Project future traffic, population, land use, employment and housing.*
- *Analyze local traffic patterns.*
 - *Travel Demand models*
 - *Hand-Allocation*
 - *Trend-line Analysis*
 - *Projections based on nearby land use*
- *Identify and map existing & future capacity deficiencies.*
- *Examine environmentally sensitive areas, i.e., wetlands, floodplains, historic structures, threatened and endangered species.*

Develop
CTP
Vision

Conduct
Needs
Assessment

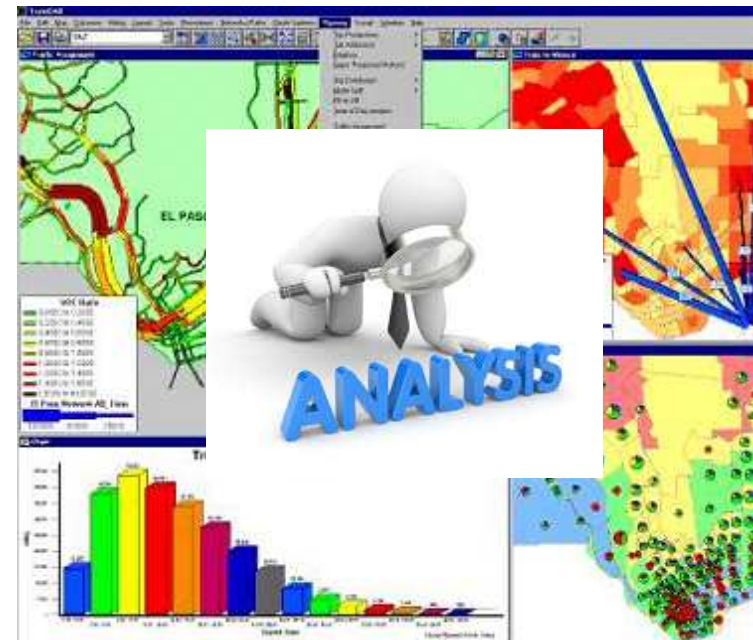
Analyze
Alternatives

Develop
Final
Plan

Adopt
Final
Plan

Purpose

To develop, evaluate, and recommend **draft CTP strategies** that address transportation deficiencies in a way that is acceptable to the primary planning partners



Develop
CTP
Vision

Conduct
Needs
Assessment

Analyze
Alternatives

Develop
Final
Plan

Adopt
Final
Plan

Purpose

To complete documentation of the **draft CTP plan for endorsement** by the local decision-makers and receive public comments



Develop
CTP
Vision

Conduct
Needs
Assessment

Analyze
Alternatives

Develop
Final
Plan

**Adopt
Final
Plan**

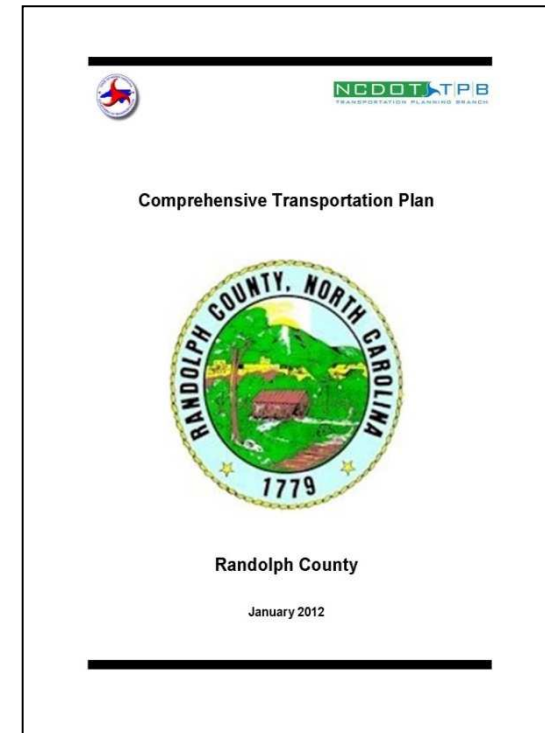
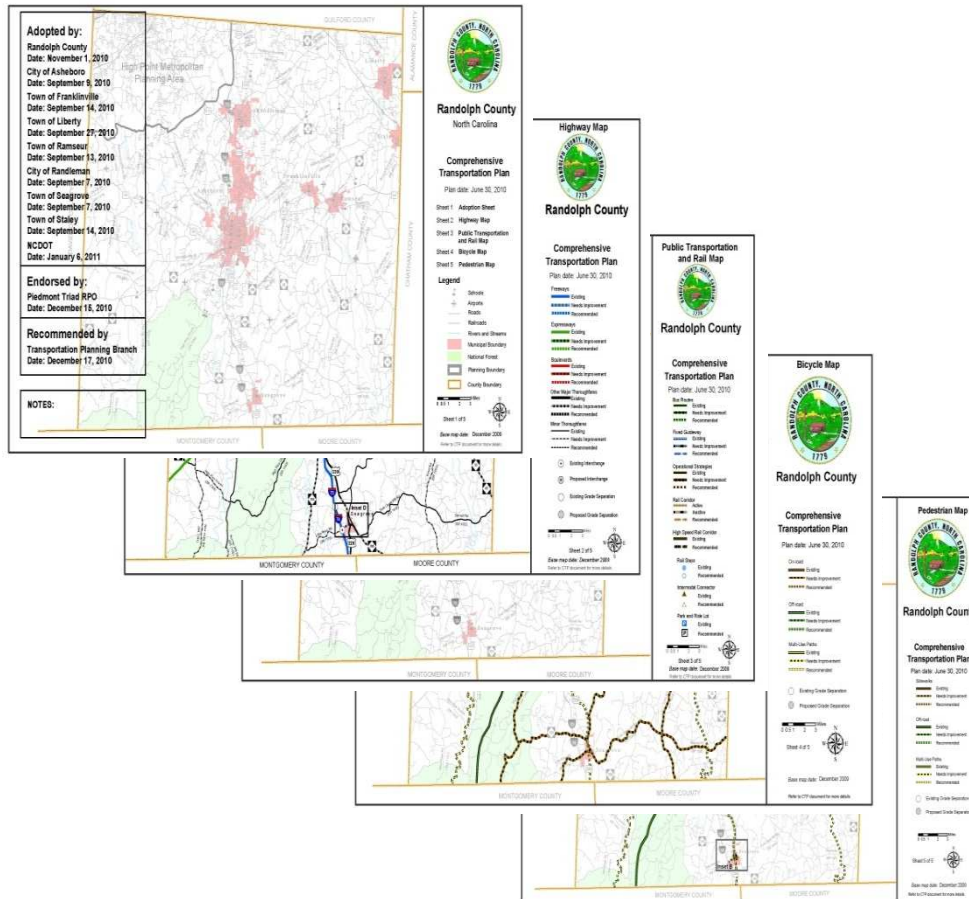
Purpose

To complete final adoption by all required **local and state partners** and our the NC Board of Transportation

Output

- **Mutually Adopted** Comprehensive Transportation Plan

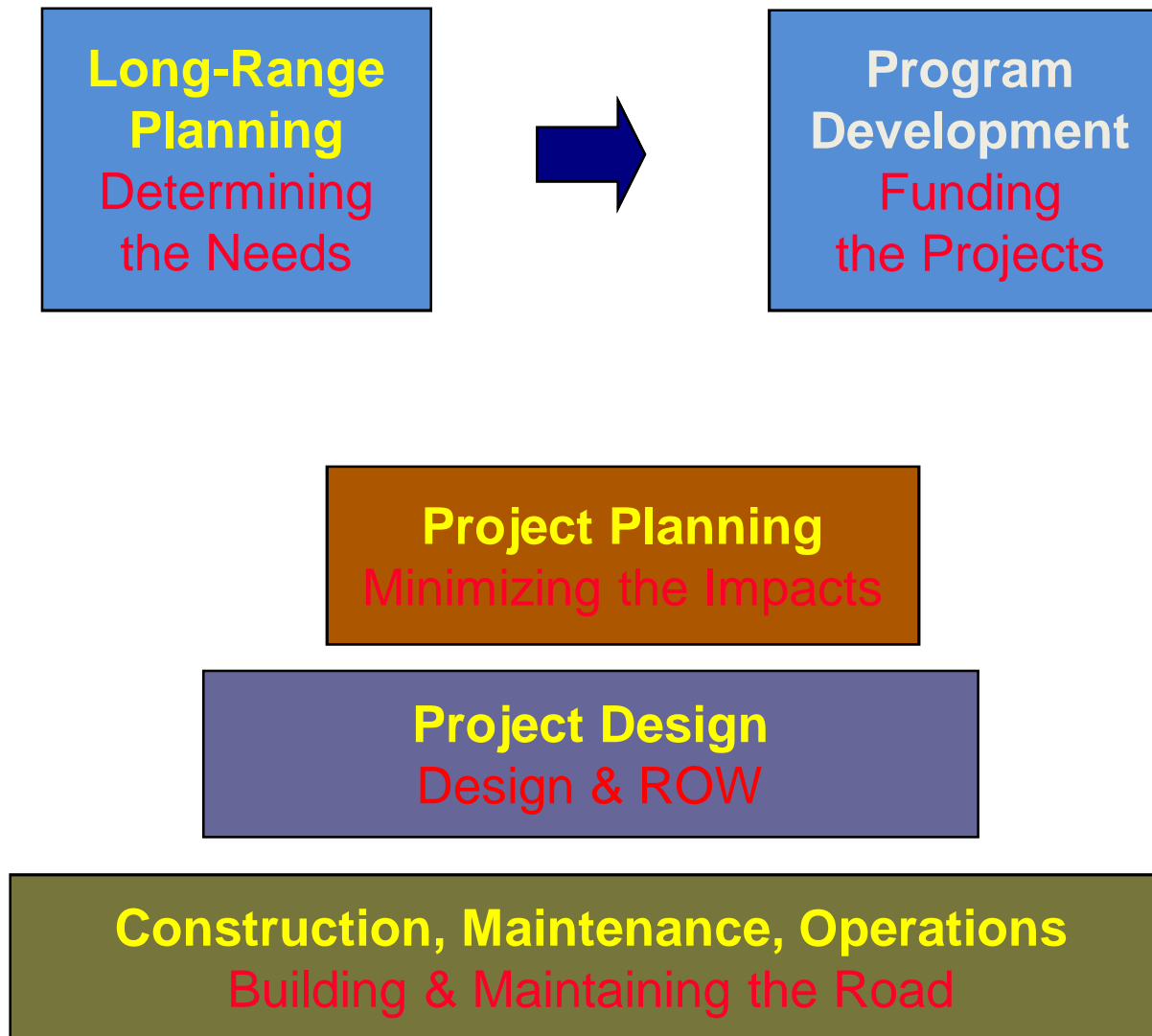




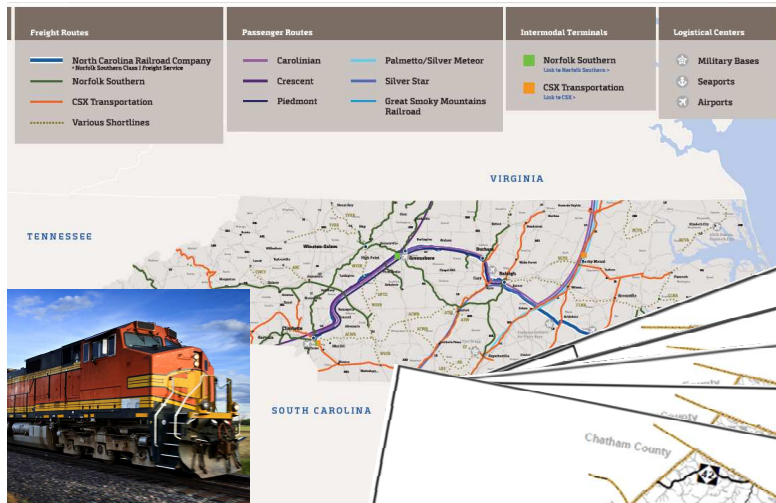
Study Report

Series of Maps

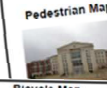
How A Transportation Project Gets Built



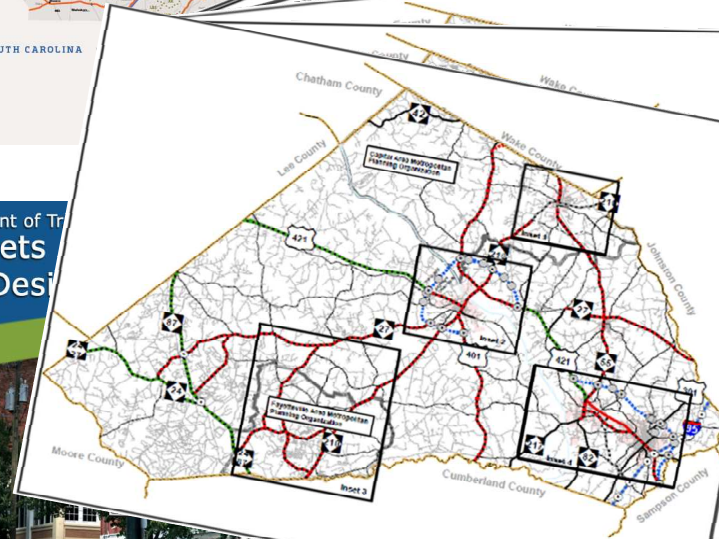
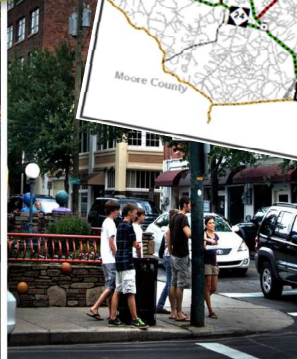
It is about the **SYSTEM**; It is not just about a single project.

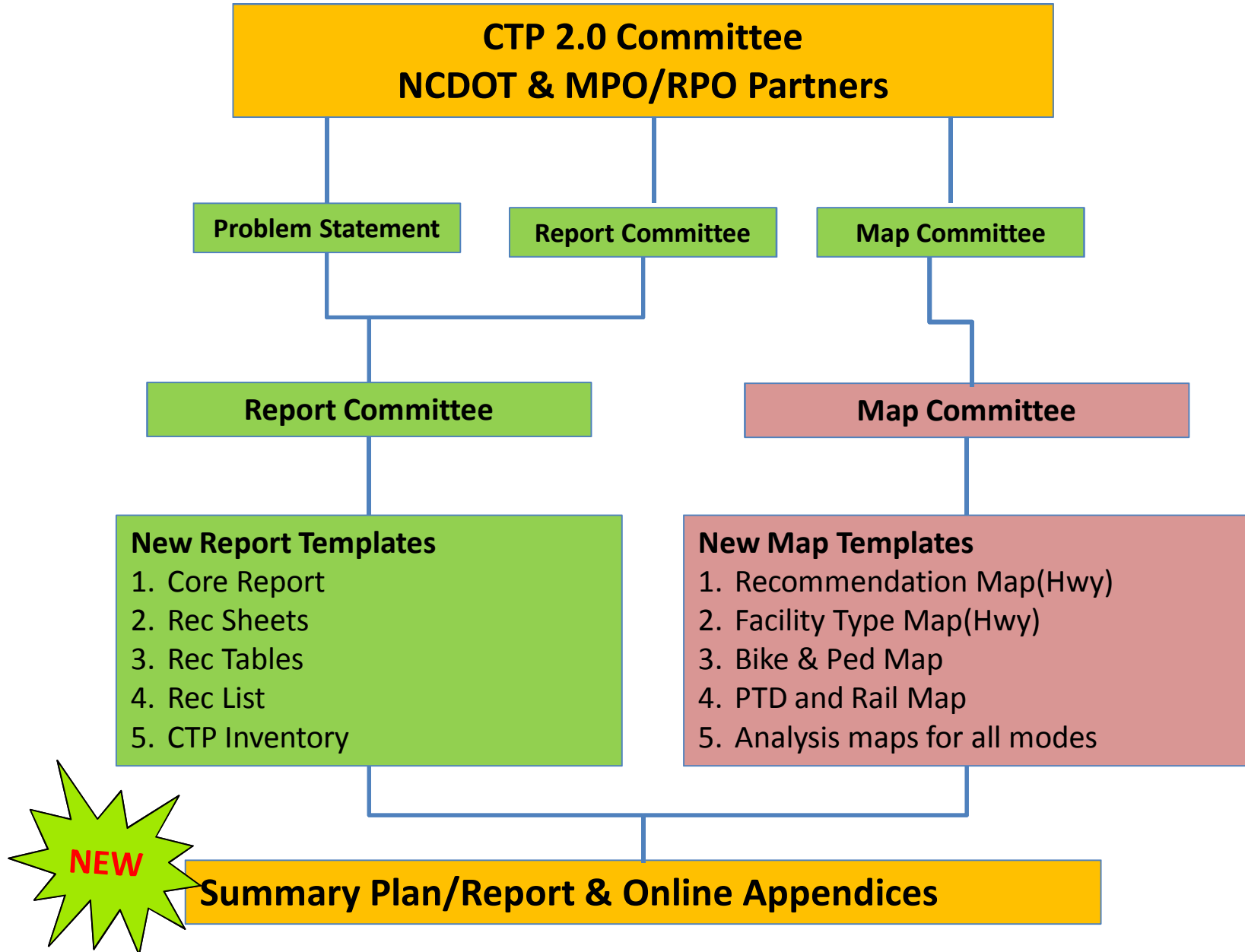


PUBLIC TRANSPORTATION SYSTEMS IN NORTH CAROLINA BY CATEGORY

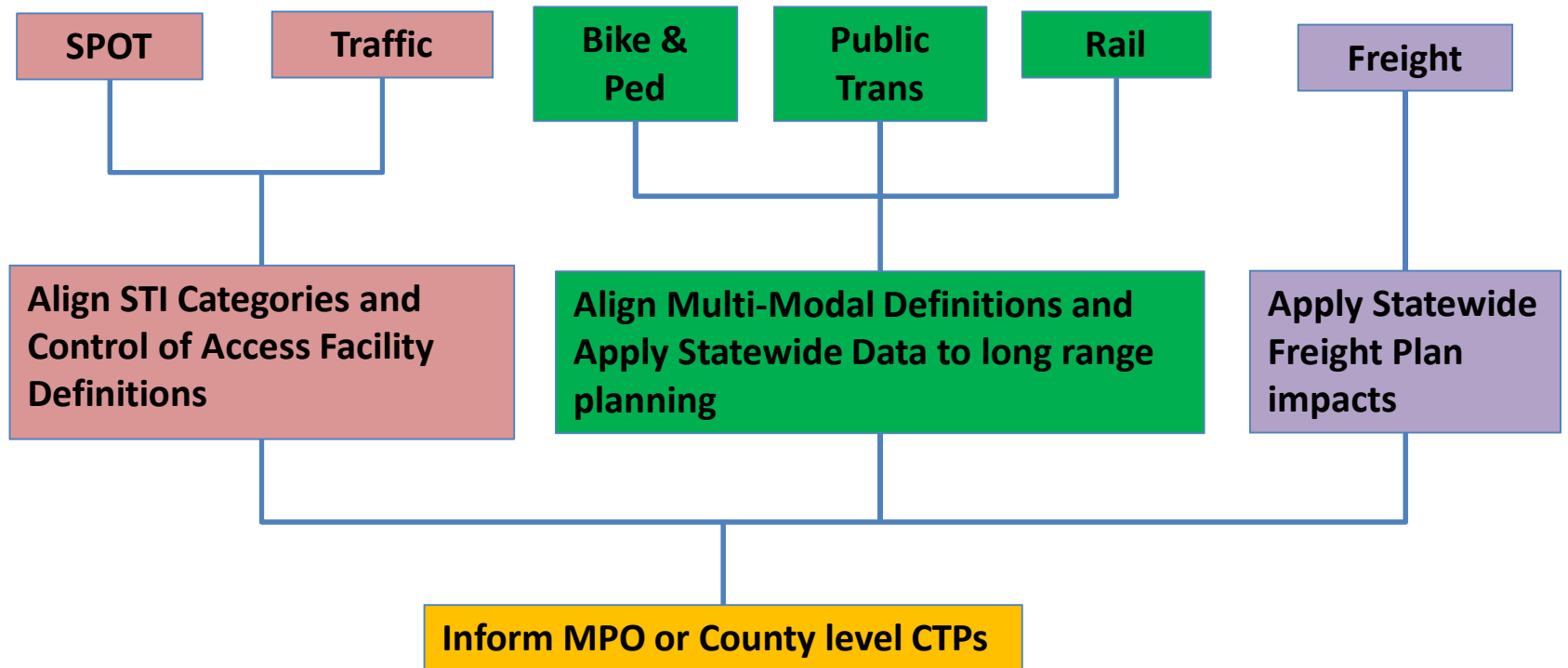


North Carolina Department of Transportation Complete Streets Planning and Design





TPB's CTP 2.0 Coordination with DOT Business Units



Open Discussion

